



## City of Bothell™

Council Chambers, 18415 101<sup>st</sup> Ave NE, Bothell, WA

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### City Council Regular Meeting Agenda

**Tuesday, February 13, 2018**

**6:00 PM**

Members of the City Council: Mayor Andy Rheume, Deputy Mayor Davina Duerr, Councilmember Tom Agnew, Councilmember Rosemary McAuliffe, Councilmember James McNeal, Councilmember Liam Olsen and Councilmember Jeanne Zornes

Members of the Staff: City Manager Jennifer Phillips, Assistant City Manager Torie Brazitis, City Attorney Paul Byrne, Public Works Director Erin Leonhart, Finance Director Tami Schackman, Human Resources Director Mathew Pruitt, Information Services Director Joe Sherman, Police Chief Carol Cummings, Fire Chief Bruce Kroon, Interim Community Development Director Gary Hassler, Interim Parks and Recreation Director Tracey Perkosky and City Clerk Laura Hathaway

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- 1) Call to Order, Roll Call, Pledge of Allegiance
  - 2) Meeting Agenda Approval
  - 3) Visitor Comments - (limited to 3 minutes per person)
  - 4) Study Session
    - a. AB 18-025 – Briefings from Washington State Department of Transportation and Sound Transit  
RECOMMENDED ACTION: No action is requested this evening.
  - 5) Adjourn
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**SPECIAL ACCOMODATIONS:** The City of Bothell strives to provide accessible meetings for people with disabilities. If special accommodations are required, please contact the ADA Coordinator at (425) 806-6151 at least one day prior to the meeting.

Copies of agenda bills and attachments listed in this agenda may be obtained from the City Clerk's Office the Friday before the meeting. **PRELIMINARY AGENDA:** The preceding is a preliminary agenda; other items may be added and action taken on matters which do not appear above.

Bothell City Council meetings are aired live on Bothell Community Television (BCTV) Channel 21/26 (Comcast/Verizon). Meetings are generally replayed according to the following schedule (subject to change): Wednesday following the meeting at 10 a.m.; Friday, Saturday and Sunday following the meeting at 10 a.m. and 7 p.m. City Council and Planning Commission meetings and the BCTV schedule are viewable online at [www.bothellwa.gov](http://www.bothellwa.gov)

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Bothell City Council  
**AGENDA BILL SUMMARY**

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Meeting Date: February 13, 2018      Action ☐    No Action ☒      AB #: 18-025

Subject: Briefings from Washington State Department of Transportation and Sound Transit

Budget Impact/Source of Funds: N/A

Staff Presenter/Department: Erin Leonhart, Public Works Director

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**Executive Summary:**

The purpose of this study session is to provide City Council with an overview of regional transportation issues from Washington State Department of Transportation (WSDOT) and Sound Transit staff.

Staff anticipates that the presentation will consist of two major parts:

- Washington State Department of Transportation
  - I-405 Master Plan and North End Project Update – Lisa Hodgson, I-405 Design Engineering Manager
  - I-405 Express Toll Lane Performance – Ed Barry, WSDOT Tolling Division Director
- Sound Transit 3 Projects in Bothell
  - Bus Rapid Transit on SR 522 – Kamuron Gurol, North Corridor Development Director
  - Bus Rapid Transit on I-405 – Bernard van de Kamp, East Corridor Development Director

Representatives from King County Metro Transit and Community Transit have also been invited to attend in the event of Council questions specific to their services.

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**Category:** Discussion/Update Item

- Presentation
- Council Discussion

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**History:**

- July 11, 2017 – Sound Transit staff provided an update to Council regarding ST3 Bus Rapid Transit projects
- July 11, 2017 – WSDOT staff provided an update to Council regarding I-405

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**Recommended Action:**

No action is requested this evening.

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**Attachments:**

1. Sound Transit 3 145th and SR 522 Bus Rapid Transit Project Information
  2. Sound Transit 3 I-405 Bus Rapid Transit Project Information
  3. Sound Transit 3 Bus Operations and Maintenance Facility Project Information
  4. WSDOT Potential I-405 Capacity Improvements, SR 522 to I-5
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City Manager Approval: \_\_\_\_\_



Date: 02/08/2018

# 145<sup>th</sup> and SR 522 Bus Rapid Transit

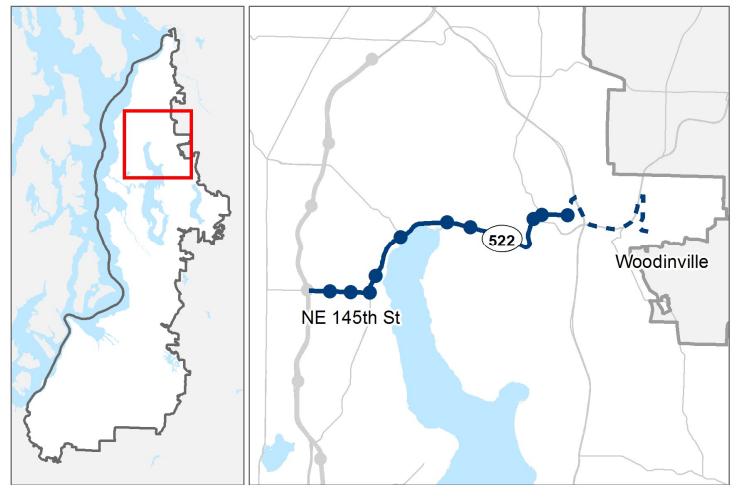
Subarea	North King
Primary Mode	BRT
Facility Type	Corridor
Length	8 miles
Date Last Modified	July 1, 2016

## SHORT PROJECT DESCRIPTION

This 8-mile BRT project would design and implement BRT on NE 145<sup>th</sup> Street/SR 523 from the Link station at I-5 to SR 522, with BRT treatments continuing on SR 522 to UW Bothell, and with connecting service at lower frequencies to Woodinville. On NE 145<sup>th</sup> Street, this project would include transit priority spot treatments, with two stations. On SR 522, the majority of the corridor through Lake Forest Park, Kenmore and Bothell will feature BAT lanes to downtown Bothell, and transit priority treatments on arterials to UW Bothell.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



## KEY ATTRIBUTES

### REGIONAL LIGHT RAIL SPINE

*Does this project help complete the light rail spine?*

No

### CAPITAL COST

*Cost in Millions of 2014 \$*

\$364 — \$389

### RIDERSHIP

*2040 daily project riders*

8,000 — 10,000

### PROJECT ELEMENTS

- Approximately 8 miles of Bus Rapid Transit (BRT) with 9 pairs of stations and an expanded transit center at UW Bothell
- Along NE 145<sup>th</sup> between I-5 and SR 522 (Lake City Way/Bothell Way), sections of the corridor will have bus lanes or queue jumps to reduce transit delays due to traffic, with BRT serving two station pairs on NE 145<sup>th</sup> Street, as well as a station pair where NE 145<sup>th</sup> and SR 522 intersect.
- On SR 522, BRT will use business access transit (BAT) lanes on SR 522 from NE 145<sup>th</sup> Street to Bothell, then run on arterials to UW Bothell. Service continues to connect to I-405 BRT service and to Woodinville. The BAT lanes fill in existing "gaps" along SR 522 between NE 145<sup>th</sup> Street and 96<sup>th</sup> Avenue NE in Bothell, and add a westbound BAT lane between 98<sup>th</sup> and 96<sup>th</sup> Avenues NE
- On SR 522, there will be seven pairs of stations, including where SR 522/NE 145<sup>th</sup> Street intersect, with the other station pairs serving Lake Forest Park, Kenmore, and Bothell
- On-street bus transfer point at downtown Bothell, and at an expanded transit center at the UW Bothell
- Three 300-space parking garages, located in Lake Forest Park, Kenmore and Bothell
- BRT vehicle fleet purchase of 14 coaches (3-door articulated coaches with ST BRT livery)
- Peak and off-peak headways from NE 145<sup>th</sup> Street to UW Bothell: 10 minutes
- Peak and off-peak headways between UW Bothell and Woodinville: 20 minutes
- Non-motorized access facilities (bicycle/pedestrian) and transit-oriented development (TOD)/planning due diligence (see separate document titled "Common Project Elements")

# 145<sup>th</sup> and SR 522 Bus Rapid Transit

KEY ATTRIBUTES	
NOT INCLUDED	<ul style="list-style-type: none"> <li>• BRT service west beyond the Lynnwood Link station at NE 145<sup>th</sup> Street</li> <li>• Capital improvements east of transit center at UW Bothell</li> <li>• Reconstruction of locally funded or completed sections of BAT lane/SR 522 projects in Kenmore and Bothell, as well as right-of-way acquisitions for Bothell's improvements from Kenmore to 96<sup>th</sup> Avenue NE</li> <li>• See separate document titled "Common Project Elements"</li> <li>• On-going maintenance and repair of BAT lanes, sidewalks, and signalization improvements</li> </ul>
ISSUES & RISKS	<ul style="list-style-type: none"> <li>• The SR 523/NE 145<sup>th</sup> Street and SR 522 rights-of-way are constrained, and widening would affect adjacent properties in some areas</li> <li>• Maintaining speed and reliability in areas with high levels of congestion and frequent driveways and cross-streets</li> <li>• To minimize travel time, SR 522 BRT assumes fewer stations than local and existing ST Express service</li> <li>• Leverages prior investments in SR 522 as a major transit corridor</li> <li>• ST2 included a \$5 million (in \$2007) capital contribution toward a transit center and parking garage in the City of Bothell</li> </ul>

# 145<sup>th</sup> and SR 522 Bus Rapid Transit

Sound Transit developed a conceptual scope of work for this project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information was developed to assist the Sound Transit Board as it developed the ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would develop a BRT corridor on NE 145<sup>th</sup> Street between the Link station at I-5 and SR 522, and continuing on SR 522 to Bothell, on local streets to UW Bothell, with transit service continuing at lower frequencies to Woodinville.

On NE 145<sup>th</sup> Street (SR 523), BRT features transit priority spot treatments at SR 522/Lake City Way, 15<sup>th</sup> Avenue NE, and 5<sup>th</sup> Avenue NE, with BRT serving two station pairs and the NE 145<sup>th</sup> Street light rail station. On SR 522, the project features capital and service improvements to build on existing and planned local agency improvements to develop outside business access and transit (BAT) lanes along the corridor. Other improvements along SR 522 and downtown Bothell include transit signal priority at intersections, 7 pairs of BRT stations, and an expanded transit center at UW Bothell. Access improvements include 300-space parking garages near Lake Forest Park (1), Kenmore (1) and Bothell (1). There are also improvements to bring sidewalks to current standards where BAT lanes or other street modifications are being added, and there is an allowance for pedestrian and bicycle access improvements in the vicinity of each station.

## Assumptions:

- The 145<sup>th</sup> Street Link Station will accommodate BRT vehicles
- Service span: up to 19 hours of service Monday – Saturday, 17 hours on Sunday
- Operating and Maintenance costs includes service along the NE 145<sup>th</sup> St/SR 522 corridor as well as connecting service east of the UW Bothell transit center to Woodinville
- For non-motorized station access allowances, the BRT stations are categorized as Suburban stations
- Some or all of the project elements could be implemented by local jurisdictions on behalf of Sound Transit
- The SR 522 section does not presume changes to King County Metro service for this corridor, where several peak period routes currently run
- City of Bothell has funding in place for right-of-way acquisitions needed between Kenmore city line and 96<sup>th</sup> Avenue NE
- Sections of SR 522 with bus lanes already in place or under construction (Kenmore, Bothell) would not need to be replaced

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

Property acquisitions at stations and intersections where protected turns or lanes are to be maintained.

## Potential Permits/Approvals Needed:

- WSDOT approvals for modifications to state routes
- Agreements with King County Metro for use of Kenmore park-and-ride for structured parking
- Agreements with UW Bothell for modifications within campus area
- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- All required local, state, and federal environmental permits
- NEPA/SEPA and related regulations

# 145<sup>th</sup> and SR 522 Bus Rapid Transit

**Project Dependencies:**

- Completion of Lynnwood Link Extension station at NE 145th Street
- New bus operations and maintenance facility (cost included in separate project template)

**Potential Project Partners:**

- WSDOT
- Cities of Seattle, Shoreline, Lake Forest Park, Kenmore, Bothell, and Woodinville
- FHWA
- King County
- FTA
- UW Bothell
- Transit partners serving project corridor: King County Metro, Community Transit



# 145<sup>th</sup> and SR 522 Bus Rapid Transit

## Cost:

Sound Transit developed a conceptual scope of work for this project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information was developed to assist the Sound Transit Board as it developed the ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$19.50	\$20.87
Preliminary Engineering & Environmental Review	\$10.31	\$11.03
Final Design & Specifications	\$19.13	\$20.46
Property Acquisition & Permits	\$54.78	\$58.62
Construction	\$195.09	\$208.74
Construction Management	\$17.21	\$18.42
Third Parties	\$4.63	\$4.95
Vehicles	\$23.87	\$25.54
Contingency	\$19.13	\$20.46
<b>Total</b>	<b>\$363.64</b>	<b>\$389.10</b>

## Design Basis:













Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above. For cost allowances that are not applicable for this project, "N/A" is indicated.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$1.55	\$1.66
Sustainability	N/A	N/A
Parking access	\$47.00	\$50.29
Non-motorized (bicycle/pedestrian) access	\$4.72	\$5.05
Bus/rail integration facilities	N/A	N/A

# 145<sup>th</sup> and SR 522 Bus Rapid Transit

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No	
 <b>Ridership</b> <i>2040 daily project riders</i>	8,000 — 10,000	
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$364 — \$389	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$15	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	28 min to/from Bothell 45 min to/from Woodinville	
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	Medium	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium	Low to medium number of existing daily transit connections
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium-Low	Medium to low intersection density providing non-motorized access with large parcels as barriers
 <b>Percent of Non-motorized Access</b> <i>Percentage of daily boardings</i>	25-35%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	None	
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>  <i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential stations</i>	Medium-Low  Medium  Pop/acre: 2014: 7; 2040: 9 Emp/acre: 2014: 2; 2040: 4 Pop+Emp/acre: 2014: 9; 2040: 12	Three city centers, but areas with limited support in local and regional plans; 35% land compatibly zoned  Moderate Market Support  Higher densities in the northern side of SR 522 near Kenmore and Bothell city centers
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential stations</i>  <i>2014 and 2040 population within 0.5 mile of potential stations</i>  <i>2014 and 2040 employment within 0.5 mile of potential stations</i>	33% Minority; 12% Low-Income  Pop: 2014: 23,800; 2040: 29,700  Emp: 2014: 7,700; 2040: 12,300	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

# I-405 Bus Rapid Transit

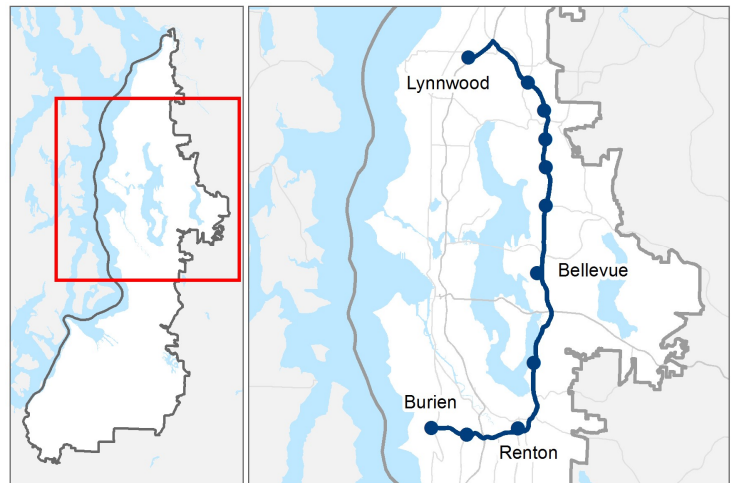
Subarea	East King
Primary Mode	BRT
Facility Type	Corridor
Length	38 miles
Date Last Modified	July 1, 2016

## SHORT PROJECT DESCRIPTION

This project would establish Bus Rapid Transit (BRT) that would operate primarily in the I-405 express toll system between Lynnwood and Renton and in I-405 high-occupancy vehicle (HOV) lanes between Renton and Tukwila. From Tukwila to Burien, BRT would operate in bus-only lanes on SR 518. Improvements include parking, stations, station access improvements, direct access ramps to facilitate the movement of buses, bus-only lanes on SR 518, and bus-only lanes on NE 85th Street in Kirkland from 6th Street to I-405 for other transit service.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



## KEY ATTRIBUTES

### REGIONAL LIGHT RAIL SPINE

*Does this project help complete the light rail spine?*

No

### CAPITAL COST

*Cost in Millions of 2014 \$*

\$812 — \$869

### RIDERSHIP

*2040 daily project riders*

15,000 — 18,000

### PROJECT ELEMENTS

- BRT station pair at the existing Lynnwood Transit Center: minor improvements including signage
- BRT station pair at the Canyon Park Park-and-Ride using existing outside flyer stops on SR 527 ramps: improvements include signage, lighting, shelters and benches, off-board fare payment, and real-time bus arrival
- BRT station pair in the vicinity of UW Bothell campus/NE 195th Street using outside flyer stops on NE 195th Street ramps: improvements include signage, lighting, shelters and benches, off-board fare payment, and real-time bus arrival
- BRT station pair at the existing Brickyard Park-and-Ride using outside flyer stops on NE 160th Street ramps: improvements include signage, lighting, shelters and benches, off-board fare payment, and real-time bus arrival
- BRT station pair at Totem Lake using existing in-line station stops on NE 128th Street direct access ramps: minor improvements including signage
- 600-stall parking garage constructed at Kingsgate Park-and-Ride (removal of 200 surface stalls, 400 net new stalls)
- BRT inline station at NE 85th Street in Kirkland with pedestrian access to bus stops along both directions of NE 85th Street
- Two-way, outside bus-only lanes on NE 85th Street in Kirkland between 6th Street and I-405 for other transit service
- BRT station pair at the Bellevue Transit Center: minor improvements including signage
- BRT in-line station pair and direct access ramps at NE 44th Street in Renton

# I-405 Bus Rapid Transit

KEY ATTRIBUTES	
PROJECT ELEMENTS	<ul style="list-style-type: none"> <li>• New 200-stall surface parking lot at NE 44<sup>th</sup> Street Station in Renton on west side of I-405</li> <li>• BRT station pair at South Renton with transit center/bus layover</li> <li>• New 700-stall garage constructed at South Renton</li> <li>• BRT station pair at the Tukwila International Boulevard Link Station: minor improvements including signage</li> <li>• BRT station pair at Burien Transit Center: minor improvements including signage</li> <li>• Bus-only lanes and transit signal priority on S. 154<sup>th</sup> Street from the Tukwila International Boulevard Station to the SR 518 on and off-ramps, on SR 518 from S. 154<sup>th</sup> Street to terminus of SR 518 at SR 509, and on SW 148<sup>th</sup> Street from SR 509 to the Burien Transit Center.</li> <li>• BRT vehicle fleet purchase of 34 coaches (3-door articulated coaches with ST BRT livery)</li> <li>• Peak headways: 10 minutes</li> <li>• 1 percent for art per Sound Transit policy</li> <li>• Non-motorized access facilities (bicycle/pedestrian) and transit-oriented development (TOD)/planning due diligence (see separate document titled "Common Project Elements")</li> </ul>
NOT INCLUDED	<ul style="list-style-type: none"> <li>• Direct access ramps or HOV-to-HOV direct connector ramps, except at NE 44<sup>th</sup> Street</li> <li>• Enhanced aesthetic surface treatments on the retaining walls</li> <li>• Bus service on NE 85<sup>th</sup> Street</li> <li>• Temporary parking costs for Kingsgate Park-and-Ride stalls displaced by construction</li> <li>• Operations beyond the I-405 and SR 518 BRT corridor</li> <li>• Operations and maintenance facility not included</li> <li>• Sustainability measures and bus/rail integration facilities not included for BRT projects on WSDOT right-of-way</li> <li>• See separate documents titled "Common Project Elements" and "Bus Operations and Maintenance Facility"</li> </ul>
ISSUES & RISKS	<ul style="list-style-type: none"> <li>• Relies on WSDOT to maintain adequate speed and reliability of I-405 express toll lane system</li> <li>• At the NE 85<sup>th</sup> Street inline station the posted speeds and curve radii of the interchange "loop" ramps would need to be reduced to avoid major interchange ramp reconstruction and right-of-way impacts; the reconstruction of the I-405 bridges over NE 85<sup>th</sup> Street would create construction staging challenges to maintain the movement of high volumes of traffic through this interchange</li> <li>• Construction of the bus-only lanes in the NE 85<sup>th</sup> Street corridor would require embankment widening and retaining walls on NE 85<sup>th</sup> Street, including substantial lengths between 114<sup>th</sup> Avenue NE and 6<sup>th</sup> Street, and widening of the NE 85<sup>th</sup> Street bridge over the Cross Kirkland Corridor.</li> <li>• Risk associated with construction of direct access ramps at NE 44<sup>th</sup> Street</li> <li>• Widening of three bridges that cross over major highways (SR 518, SR 509, and Des Moines Memorial Drive)</li> <li>• Construction of new retaining walls along SR 518</li> <li>• Remediation may be required for poor soil conditions and hazardous materials</li> <li>• Sound Transit will coordinate with WSDOT regarding implementation of the I-405 Master Plan, including additional capital projects to improve bus speed and reliability for high-capacity transit service, should funding become available.</li> </ul>

# I-405 Bus Rapid Transit

Sound Transit developed a conceptual scope of work for this project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information was developed to assist the Sound Transit Board as it developed the ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would establish BRT that would operate primarily in the I-405 express toll system for approximately 30 miles between Lynnwood and Renton via I-405, in the HOV lanes for most of the 4 miles from Renton to Tukwila via I-405, and in new bus-only lanes on SR 518 for approximately 3 miles (37 total miles). Improvements include parking, stations, station access improvements and bus-only lanes. A 600-stall parking garage would be constructed at Kingsgate Park-and-Ride, 200 surface stalls would be constructed at NE 44<sup>th</sup> Street, and a 700-stall parking garage would be constructed at the South Renton Transit Center. The NE 85<sup>th</sup> Street BRT inline freeway station would include elevators to bus stops on NE 85<sup>th</sup> Street. Bus-only lanes would be constructed in Kirkland on NE 85<sup>th</sup> Street between 6<sup>th</sup> Street and I-405 for other transit service. Direct access ramps with BRT station stops would be constructed at NE 44<sup>th</sup> Street. Bus-only lanes would be constructed between the Tukwila International Boulevard Link Station and the Burien Transit Center on S. 154<sup>th</sup> Street, SR 518, and SW 148<sup>th</sup> Street. BRT would serve the Lynnwood Transit Center, Canyon Park, UW Bothell/NE 195<sup>th</sup> Street, Brickyard, Totem Lake, NE 85<sup>th</sup> Street, Bellevue Transit Center, NE 44<sup>th</sup> Street, South Renton Transit Center, Tukwila International Boulevard Link Station, and the Burien Transit Center.

## Assumptions:

- BRT would operate in general purpose lanes on I-5 (between the Lynnwood Transit Center and I-405)
- BRT would operate in general purpose lanes on I-405 between I-5 and Brickyard (using shoulder bus lanes in southbound direction in two segments)
- Leaving Brickyard, BRT would transition from general purpose lanes to I-405 express toll lanes, continuing to Totem Lake freeway station
- BRT would operate in I-405 express toll lanes between Totem Lake and South Renton, accessing the Bellevue Transit Center from the NE 6<sup>th</sup> Street HOV direct access ramp and serving NE 44<sup>th</sup> Street from in-line station stops on the direct access ramps
- To access the South Renton transit center, buses would weave out of the express toll lanes and use the general purpose off-ramp to Rainier Avenue
- From the South Renton transit center, southbound BRT buses would enter I-405 on the Rainier Avenue general purpose on-ramp and weave over to the inside HOV lanes towards I-5. Close to I-5, buses would weave over to general purpose lanes continuing to SR 518 and the Tukwila International Boulevard Link Station. Northbound BRT buses would follow this routing in the reverse direction.
- The Tukwila International Boulevard station to the Burien Transit Center section would include new bus-only lanes on SR 518
- For the UW Bothell/NE 195<sup>th</sup> Street station, pedestrian improvements are included for access to the BRT stations along the NE 195<sup>th</sup> corridor; in addition, the design estimate includes station/system access allowance costs for additional access improvements, possibly connecting to the existing North Creek trail
- Construction of a parking garage at Kingsgate will displace parking; costs for temporary parking replacement have not been included in the cost estimate for this project
- At the Brickyard Park-and-Ride, the new northbound flyer stop will be served by a braided ramp that connects directly to I-405 and SR 522; this braided ramp is currently under construction; buses using the northbound flyer station stop and continuing north on I-405 will need to weave across general purpose traffic
- New or upgraded traffic signals would be provided along NE 85<sup>th</sup> Street for the bus-only lanes
- Multiple retaining walls along the north and south sides of NE 85<sup>th</sup> Street in Kirkland to accommodate bus-only lanes
- Widening of the NE 85<sup>th</sup> Street bridge over the Cross Kirkland Corridor to accommodate bus-only lanes
- At NE 44<sup>th</sup> Street, Sound Transit is funding the new direct access ramps and in-line station stops, minor rebuilding of the I-405 southbound off- and on-ramps, rebuilding of I-405 northbound on- and off-ramps, relocation of the NE 44<sup>th</sup> Street intersection with I-405 northbound on- and off-ramps, realignment of Lake Washington Boulevard SE, realignment of SE 76<sup>th</sup> Street, and the new parking lot and driveway as these improvements are not part of WSDOT's current funded program
- At NE 44<sup>th</sup> Street, the representative design assumes that the NE 44<sup>th</sup> Street bridge over I-405 will be rebuilt by WSDOT to accommodate dual express toll lanes in each direction; Sound Transit is funding widening of the NE 44<sup>th</sup> Street bridge on the north side to the width specified in the WSDOT I-405 Master Plan
- At NE 44<sup>th</sup> Street, the representative design assumes that Sound Transit will rebuild the I-405 northbound on- and off-ramps at the location specified by the WSDOT I-405 Master Plan, but the I-405 northbound on-ramp is being realigned due to a change in the WSDOT I-405 Master Plan (direct access ramp location)



# I-405 Bus Rapid Transit

- At NE 44th Street, the representative design assumes that Sound Transit will realign approximately 0.3 mile of Lake Washington Boulevard SE and realign approximately 0.1 miles of SE 76th Street to the location specified in the WSDOT I-405 Master Plan and tie it into the WSDOT I-405 dual-express toll lane plan.
- Sound Transit will coordinate with WSDOT regarding implementation of the I-405 Master Plan, including additional capital projects to improve bus speed and reliability for high-capacity transit service, should funding become available.
- Multiple bridge widenings and retaining walls for the BRT-only lanes along S. 154th Street, SR 518, and SW 148th Street.
- For non-motorized station access allowances, the Lynnwood Transit Center and Bellevue Transit Center stations are categorized as urban stations and intermodal transit centers, and the Canyon Park, UW Bothell/NE 195th Street, Brickyard, Totem Lake, NE 85th Street, NE 44th Street and South Renton stations are characterized as suburban stations. The Tukwila International Boulevard station is categorized as a suburban station and an intermodal transit center. The Burien Transit Center station is categorized as an urban station.

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility relocation as needed to complete the project, including fiber optics, sewer, water, overhead electric/communications, etc.

## Right-of-Way and Property Acquisition:

- Right-of-way acquisition and easements as needed to complete the project
- For the NE 85th Street inline station, property acquisition will be needed along both on-ramps to I-405 for the widening of the mainline required by the inline station in the I-405 median
- For the bus-only lanes in the NE 85th Street corridor in Kirkland, property acquisition will be needed along both sides of NE 85th Street between 120th Avenue NE and 6th Street.
- The new and improved flyer stops at Canyon Park, UW Bothell/NE 195th Street, and Brickyard, and the new Kingsgate parking garage will be constructed on WSDOT-owned property
- Right-of-way acquisition for parking lot and realigned Lake Washington Boulevard NE, I-405 southbound on-ramp, and I-405 northbound on- and off-ramps at NE 44th Street in Renton will be coordinated with WSDOT
- Right-of-way acquisition for parking garage and bus layover/circulation at South Renton as needed

## Potential Permits/Approvals Needed:

- FHWA approval for modifications to interchanges and ramps
- WSDOT and FHWA approvals for use of and/or crossings of I-5, I-405, SR 518 and SR 509 rights-of-way
- FHWA approval for new direct access ramps and in-line station stops at NE 44th Street
- Agreements with WSDOT and King County Metro for use of park-and-rides, outside flyer stops, and in-line stations
- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- All required local, state, and federal environmental permits
- NEPA/SEPA and related regulations

## Project Dependencies:

- WSDOT I-405 Master Plan widening projects
- New operations and maintenance facility to serve BRT buses

## Potential Project Partners:

- WSDOT
- Cities of Lynnwood, Bothell, Kirkland, Bellevue, Renton, Tukwila, SeaTac, and Burien
- UW Bothell, Cascadia College
- Transit partners serving project: Community Transit & King County Metro
- King County, Snohomish County
- FHWA, FTA

# I-405 Bus Rapid Transit

## Cost:

Sound Transit developed a conceptual scope of work for this project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information was developed to assist the Sound Transit Board as it developed the ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$43.27	\$46.30
Preliminary Engineering & Environmental Review	\$24.59	\$26.31
Final Design & Specifications	\$47.30	\$50.62
Property Acquisition	\$55.41	\$59.28
Construction	\$482.51	\$516.28
Construction Management	\$42.57	\$45.55
Third Parties	\$10.86	\$11.62
Vehicles	\$57.97	\$62.03
Contingency	\$47.30	\$50.62
<b>Total</b>	<b>\$811.78</b>	<b>\$868.61</b>

Design Basis:













Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above. For cost allowances that are not applicable for this project, "N/A" is indicated.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	\$2.33	\$2.50
Sustainability	N/A	N/A
Parking access	\$70.06	\$74.97
Non-motorized (bicycle/pedestrian) access	\$7.91	\$8.46
Bus/rail integration facilities	N/A	N/A

# I-405 Bus Rapid Transit

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	No	
 <b>Ridership</b> <i>2040 daily project riders</i>	15,000 — 18,000	The I-405 BRT project definition includes separate operating lines north and south connecting in downtown Bellevue and does not double count the transfers between the two lines at Bellevue.
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$812 — \$869	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$26	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	87 min	Travel time between Lynnwood TC and Burien TC
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	Medium	Operates in express toll lanes, HOV lanes, bus-only lanes and general purpose lanes Relies on WSDOT to manage the express toll lanes to provide speed and reliability
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	Medium	Low to medium-high number of existing daily transit connections and future integration opportunities with light rail service
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	Medium-Low	Low to medium intersection densities with freeways and large parcels as barriers to nonmotorized access at some stations
 <b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	20-85%	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	7 centers	Lynnwood, Bothell Canyon Park, Kirkland Totem Lake, Bellevue Downtown, Renton, SeaTac, Burien
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>  <i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	Medium   Medium  Pop/acre = 2014: 7; 2040: 12 Emp/acre: 2014: 12; 2040: 21 Pop+Emp/acre: 2014: 19; 2040: 33	Moderate support in local and regional plans; approx. 45% land is compatibly zoned  Moderate market support
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	39% Minority; 12% Low-Income  Pop: 2014: 37,400; 2040: 65,800  Emp: 2014: 66,300; 2040: 111,000	

For additional information on evaluation measures, see <http://soundtransit3.org/document-library>



# Bus Operations and Maintenance Facility

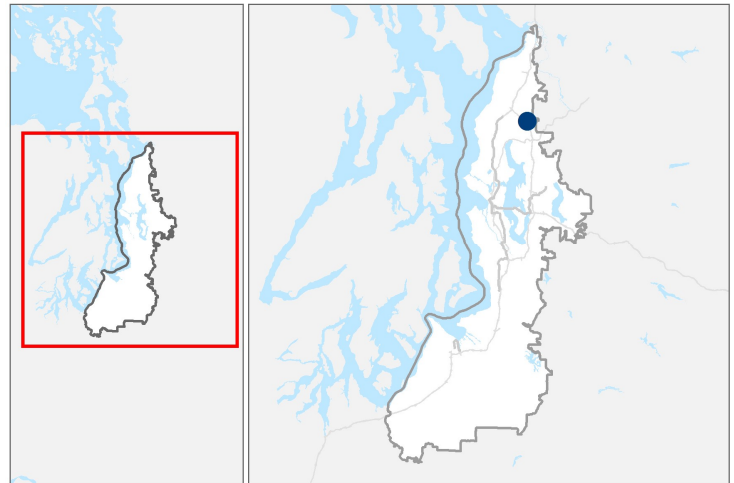
Subarea	All
Primary Mode	Bus
Facility Type	N/A
Length	N/A
Date Last Modified	July 1, 2016

## SHORT PROJECT DESCRIPTION

This project would construct a new bus operations and maintenance facility to accommodate a portion of the existing and future bus fleet required for ST3 BRT and ST Express bus service. The facility would be located in the vicinity of the I-405/SR 522 corridors.

*Note: The elements included in this representative project will be refined during future phases of project development and are subject to change.*

## PROJECT AREA AND REPRESENTATIVE ALIGNMENT



## KEY ATTRIBUTES

<b>REGIONAL LIGHT RAIL SPINE</b> <i>Does this project help complete the light rail spine?</i>	N/A
<b>CAPITAL COST</b> <i>Cost in Millions of 2014 \$</i>	\$139 — \$149
<b>RIDERSHIP</b> <i>2040 daily project riders</i>	N/A
<b>PROJECT ELEMENTS</b>	<ul style="list-style-type: none"> <li>Operations and maintenance facility along the I-405 BRT/SR 522 corridors</li> </ul>
<b>NOT INCLUDED</b>	<ul style="list-style-type: none"> <li>See separate document titled "Common Project Elements"</li> <li>Non-structural architectural and aesthetic elements in excess of the Sound Transit art program</li> </ul>
<b>ISSUES &amp; RISKS</b>	<ul style="list-style-type: none"> <li>Facility siting could be near existing residential and/or commercial uses</li> <li>Current zoning may not be compatible with OMF use</li> <li>Noise generation</li> <li>Facility siting and design should consider potential future expansion needs</li> <li>Jurisdictional coordination will be required for implementation of this project</li> </ul>

# Bus Operations and Maintenance Facility

Sound Transit developed a conceptual scope of work for this project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information was developed to assist the Sound Transit Board as it developed the ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

## Long Description:

This project would construct a new bus operations and maintenance facility to accommodate a portion of the existing and future bus fleet required for ST3 BRT and ST Express bus service. The facility would be located in the vicinity of the I-405/SR 522 corridors. Capital funding for heavy maintenance (i.e., paint/body work and component rebuild) is provided by an ST2 bus base project.

## Assumptions:

- Facility would be sized to accommodate approximately 60 buses and be expandable to 80 buses in a future (unfunded) phase.
- Capital funding for heavy maintenance (i.e., paint/body work and component rebuild) is provided by the ST2 project
- The ST3 project provides funding for additional storage and light maintenance functions only, which would include the following:
  - Offices and support areas for bus maintenance activities
  - Shop for bus maintenance
  - Parts storage
  - Fuel, wash, service areas
  - Bus operations, dispatching and employee facilities
  - Bus parking
  - Employee and visitor parking
  - Space and equipment for secure entry to bus parking and maintenance areas
  - 1 percent for art per Sound Transit policy
  - Allowances for:
    - Illumination
    - Site circulation
    - Site landscaping/setbacks
    - Stormwater detention and treatment

## Environmental:

Sound Transit will complete project-level state and federal environmental reviews as necessary; provide mitigation for significant impacts; obtain and meet the conditions of all required permits and approvals; and strive to exceed compliance and continually improve its environmental performance.

## Utilities:

Utility improvements as needed to complete the project, including fiber optics, sewer, water, electric/communications, etc.

## Right-of-Way and Property Acquisition:

Property acquisition required. Approximately 12 acres of relatively flat property in the vicinity of I-405/SR 522 corridors is required.

## Potential Permits/Approvals Needed:

- Building permits: Electrical, Mechanical, Plumbing
- Utility connection permits
- Construction-related permits (clearing and grading, stormwater management, street use, haul routes, use of city right-of-way)
- Land use approvals (Conditional use, design review, site plans, Comprehensive Plan or development code consistency, Special Use Permits)
- All required local, state, and federal environmental permits; NEPA/SEPA and related regulations.

## Project Dependencies:

- This project should be ready for service by the time of full development of 145<sup>th</sup>/SR 522 and I-405 BRT programs
- Details of the scope of the project should be developed in coordination with the ST2-funded bus base

# Bus Operations and Maintenance Facility

**Potential Project Partners:**

- Local jurisdictions

# Bus Operations and Maintenance Facility

## Cost:

Sound Transit developed a conceptual scope of work for this project for the purpose of generating a representative range of costs, both capital and operating; and benefits, including ridership forecasts, TOD potential, multi-modal access and others. This information was developed to assist the Sound Transit Board as it developed the ST3 system plan, including phasing of investments and financial plan, for voter consideration. Final decisions on project elements (e.g., alignment, profile, station locations, and number of parking stalls) will be determined after completion of system planning, project level environmental review, and preliminary engineering during which additional opportunities for public participation will be provided. Therefore, this scope definition should not be construed as a commitment that all representative features will be included in the final developed project.

In Millions of 2014\$

ITEM	COST	COST WITH RESERVE
Agency Administration	\$7.53	\$8.06
Preliminary Engineering & Environmental Review	\$3.24	\$3.47
Final Design & Specifications	\$6.49	\$6.94
Property Acquisition & Permits	\$42.43	\$45.40
Construction	\$66.17	\$70.81
Construction Management	\$5.84	\$6.25
Third Parties	\$1.30	\$1.39
Vehicles	\$0.00	\$0.00
Contingency	\$6.49	\$6.94
<b>Total</b>	<b>\$139.49</b>	<b>\$149.26</b>

## Design Basis:













Conceptual

The costs expressed above include allowances for TOD planning and due diligence, Sustainability, Bus/rail integration facilities, and Non-Motorized Access. These allowances, as well as the costs for Parking Access included above, are reflected in the following table. Property acquisition costs are not included in the table below, but are included within the total project cost above. For cost allowances that are not applicable for this project, "N/A" is indicated.

ITEM	COST	COST WITH RESERVE
TOD planning and due diligence	N/A	N/A
Sustainability	N/A	N/A
Parking access	N/A	N/A
Non-motorized (bicycle/pedestrian) access	N/A	N/A
Bus/rail integration facilities	N/A	N/A

# Bus Operations and Maintenance Facility

## Evaluation Measures:

MEASURE	MEASUREMENT/RATING	NOTES
 <b>Regional Light Rail Spine</b> <i>Does project help complete regional light rail spine?</i>	N/A	
 <b>Ridership</b> <i>2040 daily project riders</i>	N/A	
 <b>Capital Cost</b> <i>Cost in Millions of 2014 \$</i>	\$139 — \$149	
 <b>Annual O&amp;M Cost</b> <i>Cost in Millions of 2014 \$</i>	\$6	
 <b>Travel Time</b> <i>In-vehicle travel time along the project (segment)</i>	N/A	
 <b>Reliability</b> <i>Quantitative/qualitative assessment of alignment/route in exclusive right-of-way</i>	N/A	
 <b>System Integration</b> <i>Qualitative assessment of issues and effects related to connections to existing local bus service and potential future integration opportunities</i>	N/A	
 <b>Ease of Non-motorized Access</b> <i>Qualitative assessment of issues and effects related to non-motorized modes</i>	N/A	
 <b>Percent of Non-motorized Mode of Access</b> <i>Percent of daily boardings</i>	N/A	
 <b>Connections to PSRC-designated Regional Centers</b> <i>Number of PSRC-designated regional growth and manufacturing/industrial centers served</i>	N/A	
 <b>Land Use and Development/TOD Potential</b> <i>Quantitative/qualitative assessment of adopted Plans &amp; Policies and zoning compatible with transit-supportive development within 0.5 mile of potential stations</i>  <i>Qualitative assessment of real estate market support for development within 1 mile of potential corridor</i>  <i>Density of activity units (population and employment for 2014 and 2040) within 0.5 mile of potential station areas</i>	N/A  N/A  N/A	
 <b>Socioeconomic Benefits</b> <i>Existing minority / low-income populations within 0.5 mile of potential station areas</i>  <i>2014 and 2040 population within 0.5 mile of potential station areas</i>  <i>2014 and 2040 employment within 0.5 mile of potential station areas</i>	N/A  N/A  N/A	

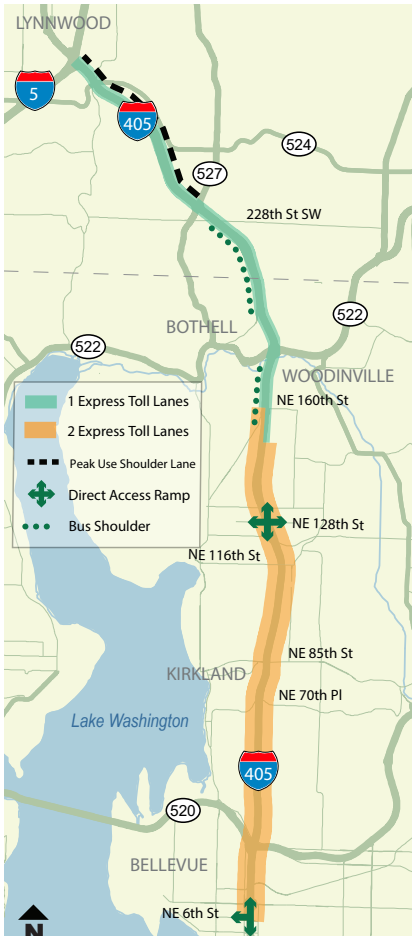
For additional information on evaluation measures, see <http://soundtransit3.org/document-library>

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## Potential I-405 Capacity Improvements, SR 522 to I-5

The Washington State Department of Transportation has long-term plans to make additional improvements to address traffic congestion on Interstate 405 in Bothell and South Snohomish County.

### Existing Conditions



### Potential First Phase



### Potential Future Phases



Example of partial direct access ramp planned for SR 527 interchange (shown: Northeast Sixth Street in Bellevue)

### Description of potential first phase (unfunded)

- Widen I-405 through the SR 522 interchange and build direct access ramps.
- Extend dual express toll lane system north to SR 527 interchange (build one new lane in each direction).
- Build partial direct access ramp near SR 527 to provide connections to Canyon Park park and ride (similar to Northeast Sixth Street ramp in photo at left).

### Potential future phases (unfunded)

- Complete dual express toll lane system north to I-5 in Lynnwood.
- Build direct connector ramps (HOV lane to express toll lane) at I-5/I-405 interchange in Lynnwood.
- Supports I-405 corridor transit reliability and Bus Rapid Transit service.

### For More Information

Anne Broache

I-405 Corridor Public Information  
(425) 450-2729

Broacha@consultant.wsdot.wa.gov  
[www.wsdot.wa.gov/Projects/I405/](http://www.wsdot.wa.gov/Projects/I405/)

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